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10/039,094	01/02/2002	John A. Benda	67,007-005; R-4264	8685

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EXAMINER

HOFFMANN, JOHN M

ART UNIT	PAPER NUMBER
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1731

DATE MAILED: 02/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/039,094

Applicant(s)

BENDA ET AL.

Examiner

John Hoffmann

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 21-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10, 21-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other:

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 21-23, and 30 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 21 requires that that the two beams for a bend. There is no support for this limitation. It appears from figure 3 that only one beam makes each bend. Examiner could find no support for the invention of present claim 21. This is a prima facie showing of lack of support. The burden is now on Applicant to demonstrate support for the claim limitation

Claims 23 and 30: there is no support for having the first locality being displaced from the second locality at regular intervals. Two locations have only one "interval". Even if the method is repeated, the first locality remains the first. Perhaps the claim was intended to recite irradiating third, fourth, fifth...localities - but it doesn't.

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The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 23-25, 27-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 23 is not understood: there is only one first locality and one second locality: they can have only one interval, and not "intervals".

Claims 24-25, 27-28: there is confusing antecedent basis for "deforming" it makes it unclear if the deforming of claim 4 requires these things, or if it is meant to set forth the scope of the term "deforming" in that it can include forming bends. Claims 27-28: it is unclear if it refers to the deforming of step C or D or both.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, and 5 rejected under 35 U.S.C. 102(b) as being anticipated by Byron  
5694502.

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See figure 2, and col. 2, lines 1-28 discloses all of the limitations of claims 1-3 and 5. The first locality corresponds to the left-most portion exposed to and altered by beam 11. The second locality is the portion that is exposed to beam 14.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 3, 5 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Byron 5694502.

See how Byron teaches the invention above. Byron doesn't explicitly teach the two localities. It would have been obvious to repeat the process along the fiber to make additional gratings along the fiber so as make as many gratings as one desires.

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Claim 23: it would have been obvious to have them spaced evenly, so that each is identical, so as to produce uniform product where the consumer can get everything exactly alike.

Claims 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Byron 5694502 as applied to claim 3 above, and further in view of Bernstein 6509547.

Byron does not teach the deforming of the fiber. Bernstein disclose removing material (i.e deforming) from a fiber (See col. 1, lines 16-33 and col. 2, lines 16-17). More specifically: Bernstein teaches that fibers have protective layers to increase strength and protect it; and that the material is removed prior to forming gratings. It would have been obvious to use a protective coating on the Byron fiber so as to increase strength and protection, and it would have been further obvious to remove the coating as a precursor step to writing the grating, so as to let the laser directly impinge on the glass of the fiber. It would have been obvious to remove the material (i.e. deform the fiber) at all localities to be treated. The purpose of the removal/deforming is "to form the grating on the optical fiber." It is noted that there is no indication the forming step comprises deforming, nor that the deformations themselves create the grating. Although such is disclosed, such limitations are not read into the claims.

Claims 1- 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim 6501881.

Kim discloses the invention at figure 5 and col. 5, lines 10-36. But there is no disclosure of two different localities along the axis. It would have been obvious to create another grating by repeating the process at a location further down the fiber, so as to make as many gratings as desired.

Claim 2: the mirrors 560 of figure 5 create the second beam which is the first beam

Claims 1-2 and 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prast 5176731 and Nakai 5996375.

Figures 5 and 4 of Prast disclose directing laser light at two different localities as required by the first two steps of claim 1. However, Prast does not disclose making a grating. Nakai discloses that one can make gratings from optical fibers. It would have been obvious to use the Prast fiber to create the Nakai gratings so that one can precisely control the central wavelength and rejection of the light used in optical systems (see col. 1 lines 65-67 and/or to sell them and make money. As to the different localities: one can choose any two different localities, since all axial localities are irradiated.

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Alternatively: Nakai discloses forming of a grating as claimed but does not disclose using two laser beams. Prast discloses an improved method of making fibers, it would have been obvious to modify the Nakai invention, by forming the fibers using the Prast improvement. See col. 1, lines 39-45 and col. 4, lines 31-34 of Prast which discloses at least one improvement.

Claim 2 is clearly met.

Claim 6: see col. 9, line 31 of Prast.

Claim 7: the lasers trace out various patterns including a cross, a square, a "T" and triangles.

Claim 8: the beams originate at the laser; 401/501. It is clear that the laser is "activated". It would have been obvious to set the laser 401/501 in a location and leave it there. This setting would be predetermining its location. The laser 401/501 is a three dimensional object and thus has various "points" (for example, its left most point and its right most point). The laser would be activated when it is at these predetermined points throughout the entire process.

Claim 9 is clearly met.

Claim 10: it would have been obvious to make as many gratings as one desires/needs.

Claims 26-30 and 1,4, 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim 6430342.



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Figure 1 of Kim discloses using a laser to "deform" the fiber (col. 1, lines 58-63). But this doesn't show using two lasers. Figure 2, however, requires putting deformations on the opposite side of the fiber (col. 2, lines 2-9). It would have been obvious to form the deformation on the figure 2 fiber, by application of another laser beam on the other side - because the fiber is made using "the same manner". And if the light is shown from the same location, it could not reach the bottom side of the fiber.

Claim 27: the claims do not require that the "deforming" of claim 27 is "said" deforming of claim 26. Thus it is open to any deforming at any time. It would have been obvious to bend the fiber as it is wound on a spool, or else bend it around a corner or through a conduit. One of ordinary skill realizes that optical fibers are intended to be able to be placed in undulating paths. Or looking at it in another way: Applicant's deforming step is comprising in nature and can include various sub-steps such as cooling the fiber and recoating the fiber: thus it is also open to a sub step of snaking a fiber through a conduit. This would result in bends in the fiber.

Claim 28 is clearly met.

Claim 29: The first upper 30' and the last lower 30' would be spaced from each other along an axis of the optical fiber.

Claim 30: it would have been obvious to repeat the method at numerous locations so as to make even more gratings.

Claims 1,4 , 24 and 25 are met for substantially the same reasons claims 26-30 are met.

### ***Response to Arguments***

Applicant's arguments filed 1-5-04 have been fully considered but they are not persuasive.

It is argued that Byron's beams all hit at the same "locality". Applicant has not shown that Byron's grating cannot be considered to be numerous adjacent localities. Applicant's localities are very near each other. There is no reason why one must consider Byron's sections taken as a whole constitute a "locality" but Applicant's irradiated sections (when taken as a whole) do not constitute a locality. It appears the arguments rely on some specific definition of "locality" which is not explicitly indicated in the specification. A typical definition for locality is: a particular place situation or location. It is deemed that a grating can have multiple localities, such as a right end, a left end and middle portion.

More importantly, as indicated above in the 103 rejection, it would have been obvious to duplicate the method at various localities along the fiber.

It is further argued that there is no showing in Byron that any of the beams come from the same source. The claims do not mention any "source" thus it is immaterial whether the beams come from the same source. The claim merely requires that the first beam is the second beam: i.e. they are the same beam.

It is still further argued that Prast does not show irradiating two localities axially displaced from each other. This is not convincing because Prast irradiates the entire fiber. For Applicant's argument to be valid, one would have to consider the entire Prast

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fiber to be a single locality. If a single fiber is a single locality, then Applicant's fiber is also a single locality. Thus for the argument to be valid, Applicant's own invention would not read on the claims. Any location on the Prast fiber can be considered to be a locality.

It is argued that the motivation is deficient because it does not explain why one using Prast would look to Nakai for the teaching of forming a grating. There is no requirement to explain this - or that it be true. A modification must be obvious, but there is no requirement that source of the motivation comes from the primary reference (i.e. from Prast).

It is argued that Prast doesn't have a cross, a square and open "T" and triangles. Figure 4 clearly shows these things. For example a cross is formed by the light which goes from 408 to 422 (this would be the cross-bar of the cross) and the second part of the cross would include the light which travels from 407 to 424. For a square: 406 points to one vertex, 408 points to a second vertex, a third vertex is on mirror 407, and the final vertex is not shown but would be present.

It is argued that there is nothing which teaches the activation at predetermined points. This is probably correct, and why the rejection states it is "obvious" - not that it is an implicit or explicit feature.

The arguments regarding the newly added claims are moot in view of the present rejections.

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***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

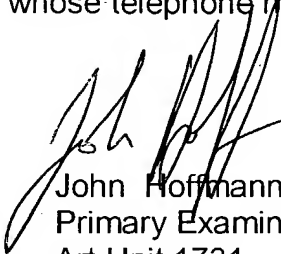
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Poole, Borak, and Paek are cited as being related to Applicant's disclosed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is (571) 272 1191. The examiner can normally be reached on Monday through Friday, 7:00- 3:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-1700.

  
John Hoffmann  
Primary Examiner  
Art Unit 1731

1-27-04

jmh